

## ABSTRACT

Semiconductor devices including a non-volatile memory transistor and methods for manufacturing such semiconductor devices are described. One semiconductor device may include a silicon substrate 10, a floating gate 22 disposed above the silicon substrate 10 through a first dielectric layer 20, a second dielectric layer 26 that contacts at least a part of the floating gate 22, a control gate 28 formed over the second dielectric layer 26, and a source region 14 and a drain region 16 formed in the silicon substrate 10. A wiring layer 40 is provided above the floating gate 22, and the entirety of the floating gate 22 is overlapped by the wiring layer 40 as viewed in a plan view.

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100